ACTION INSTRUMENTS
... the Industrial I/O Company

Sensors and Accessories

Sensors	Model Number
Thermocouple	S100-105
RTD	S110-115
Pressure	S500 & S505
Mag. Pick-up	S710

Accessories	Model Number
8-digit counter	C750
4-20mA calibrator	T808
EP Housing, 8-pin AP	C008
EP Housing, 11-pin AP	C011
EP Housing, T700 series	T805
EP Housing Kit, V560 series	V960

Mounting Hardware	Model Number
8-pin socket (track/surface)	M008*
11-pin socket (track/surface)	M011*
20-pin socket (track)	M020*
8-pin socket (Din-rail)	MD08
11-pin socket (Din-rail)	MD11
Channel Track, 4 ft.	M004
Din Rail, 1 Meter	MD01
Retaining Spring	M801

*Includes channel track.

Common Thermocouple Sensors

ISA Code	Conductor Positive	Conductor Negative	Temperature Range °F	Limits Of Error Standard	Limits Of Error Special	Application Notes
E	Chromel (Purple)	Constantan (Red)	32 to 600 632 to 1600	±3°F ±1/2%	— —	Highest output of common thermocouples
J	Iron (White)	Constantan (Red)	32 to 530 530 to 1400	±4°F ±3/4%	±2°F ±3/8%	Reducing atmosphere recommended
T	Copper (Blue)	Constantan (Red)	-300 to -75 -150 to -75 -75 to +200 200 to 700	— ±2% ±1-1/2°F ±3/4%	±1% ±1% ±3/4°F ±3/8%	Excellent in oxidizing and reducing atmosphere within its temperature range
K	Chromel (Yellow)	Alumel (Red)	32 to 530 530 to 2300	±4°F ±3/4%	±2°F ±3/8%	For oxidizing atmosphere
S	Platinum 10% Rhodium (Black)	Platinum (Red)	32 to 1000 1000 to 2700	±5°F ±1/2%	±2.5°F ±1/4%	Laboratory standard, highly reproducible
R	Platinum 13% Rhodium (Black)	Platinum (Red)	32 to 1000 1000 to 2700	±5°F ±1/2%	±2.5°F ±1/4%	Oxidizing atmosphere recommended
N	NICROSIL (Orange)	NISIL (Red)	32 to 530 530 to 2300	±4°F ±3/4%	±2°F ±3/8%	Alternative to type K, stable at high temperature

Wire Sizes (Annealed Copper)

AWG	Diameter (mils)	Area (circular mils)	Ohms Per 1000 ft. 0°C	20°C	50°C
10	101.9	10380	0.9203	0.9989	1.117
12	80.81	6530	1.463	1.588	1.775
14	64.08	4107	2.327	2.525	2.823
16	50.82	2583	3.700	4.016	4.489
18	40.30	1624	5.883	6.385	7.138
20	31.96	1022	9.355	10.15	11.35
22	25.35	642.4	14.87	16.14	18.05
24	20.10	404.0	23.65	25.67	28.70
26	15.94	254.1	37.61	40.81	45.63
28	12.64	159.8	59.80	64.90	72.55
30	10.03	100.5	95.08	103.2	115.4
32	7.950	63.21	151.2	164.1	183.4

Temperature Conversion

Degrees F = (°C x 9/5) + 32

Degrees C = (°F – 32) x 5/9

Ohm's Law

E = I x R

For Order Entry, Applications or Customer Service Assistance, Call 800-767-5726

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(A)C8814